gure 1.4
quiry and literacy: Connected skills, connected teaching

INQUIRY PROCESS	INQUIRY SKILLS AND STRATEGIES	LITERACY SKILLS AND STRATEGIES	TEACHING STRATEGIES
Connect	Connect to own experience	Relate reading to own life (text-to-self connections) in pre-reading discussions and during reading	Guided imagery Learning logs
	Connect to ideas of others	Use speaking, listening, reading, and writing to share and connect to the ideas of others	Reading and writing workshop Conversation, shared questioning
	Connect to previous knowledge and verify its accuracy	Activate prior knowledge (text-to-world connections)	K-W-L chart (what do you Know, what do you Want to know, what have you Learned) and variations Small-group discussions and dialogues Webbing
	Gain background and context • Discover complexities • Discover areas of particular interest • Develop overview, framework of accurate information	Understand language as a function of context (text-to-text connections) • Develop vocabulary in the context of a discipline • Recognize patterns of text that are used for different purposes Gain background knowledge to develop a framework for understanding new ideas (text-to-world connections)	Subject-specific word walls Vocabulary in context (word exploration, concept maps) Pre-reading aids (visual organizers, structured overviews, semantic maps)
Connect (cont.)	Establish preliminary contact with idea through observation or experience in order to build personal understanding and identify gaps in information or understanding	Observe details of written or visual text to identify current understandings and generate questions	Anticipation guide (statements with which students can agree or disagree) to identify prior knowledge, common misconceptions, key ideas) Concept maps Lectures, textbooks, videos Engagement and exploration activities Observation protocol and log: I Notice / I Know / I Wonder Facilitated conversation to process experience, observations Use of primary sources and artwork for initial observations and discovery

Figure 1.4 (continued)

INQUIRY PROCESS	INQUIRY SKILLS AND STRATEGIES	LITERACY SKILLS AND STRATEGIES	TEACHING STRATEGIES
Wonder	Develop wonder questions that will lead to new understandings about key ideas	Develop questions before reading a passage	Class brainstorming
	Frame questions using: • Context of prior knowledge • Focus and framework of instructional unit, including essential questions • Different levels of thinking, with a push to higher levels (e.g., asking "Why?" and "How?" in addition to asking "What?")	Develop questions to push the level of comprehension: • Ask "Why is this information important?" and "How does it fit with what I already know?" in addition to asking "What does this passage say?" • Ask "What does this passage mean to me?"	Peer questioning
	Develop questions to lead to active investigation and decision making, not to passive information gathering (e.g., "What would happen if . . . ?")	Develop questions that will lead to looking for gaps in information and areas that require interpretation: • Ask "What information has been left out of this passage?" "Why?" • Ask "What is the author's purpose?"	Question stems
	Make predictions or hypotheses based on prior knowledge, background information, and preliminary observations: • Predict answers to wonder questions • Predict what type of information will answer questions (e.g., statistics, narratives, nonfiction resources)	Before and during reading, predict upcoming text, answers to questions	Anticipation Guide
Investigate	Plan investigation and develop search strategies to find relevant, high-quality information (e.g., consider types of sources, types of information, search terms, timeline)	Identify types of texts and purposes for each	Questioning the author
		Determine reading strategies by type of text	Time for independent reading and investigation
	Identify, evaluate, and use multiple sources of information • Use criteria to evaluate all sources, particularly non-refereed Web sites • Consider comprehensiveness, format, purpose, multiple points of view, organization of information within source, accessibility, quality and authoritativeness, currency • Seek diverse sources	Use text structure to extract meaning from text: • Organization of different types of text (e.g., narrative, expository, poetry, drama) • Text patterns (e.g., classification, comparison, explanation, characteristics, justification of thesis, cause/effect, chronology, criticism, problem/solution) • Text organizers (e.g., chapters, headings, subheadings, bold, italics, boxed information) • Graphic information (e.g., pictures, charts, maps, graphic representations)	Think-aloud by teacher Frames (visual representations) of important content in text. Teacher can fill in main ideas beforehand, class can fill in together during class discussion, students can fill in individually as they read. • Problem-solution • Main idea, details • Theory, evidence • Question-answers • Comparison/contrast • Chronological sequence • Explanation, evidence, examples
	Find and evaluate information to answer questions: • Paraphrase, summarize, interpret, and evaluate information • Find and evaluate main ideas • Find and evaluate supporting evidence, conflicting evidence • Select information to keep or discard • Consider author's point of view and its impact on the information	Use global reading strategies to extract meaning from text: • Skim, scan, read for main ideas, read for details • Paraphrase • Summarize • Generate questions while reading • Distinguish between main ideas and topic	Modeling of use of strategies by teacher Read-aloud, Inquire-aloud Guided practice

Figure 1.4 (continued)

INQUIRY PROCESS	INQUIRY SKILLS AND STRATEGIES	LITERACY SKILLS AND STRATEGIES	TEACHING STRATEGIES
Investigate (cont.)	• Distinguish among facts, point of view, and opinion • Detect bias, inaccuracy Take notes using a variety of formats (e.g., learning logs, graphic organizers) Use information and information technology responsibly, efficiently, and ethically (e.g., responsible use of the Internet, no plagiarism, no violations of copyright) Think about the information to formulate new questions, hypotheses • Identify gaps and conflicting information • Consider alternative explanations and predictions • Consider new questions to extend the investigation into a new area	• Use cues for finding main ideas (e.g., signal words, topic sentences) • Determine author's point of view Use a variety of reading response formats to aid in extracting meaning and generating interpretations of text (e.g., reading response journals, graphic organizers, two-column response logs) Monitor own comprehension Make new predictions, ask new questions to lead to further reading	After each paragraph, students summarize main idea and write a question about it Students make graphic organizers Students create semantic maps Students make marginal notes Students draw pictures Response journals Two-column notetaking: • Notes / Reflections • Main Idea / Details, Examples • Ideas from Text / Connections to Prior Knowledge
Construct	Organize information to detect relationships among ideas Draw inferences justified by the evidence Think about the information to test predictions and hypotheses: • Compare evidence to hypotheses • Compare patterns in data with what is already known • Use evidence to construct reasonable explanations • Connect results with larger body of knowledge Recognize authors' points of view and consider alternative perspectives Construct clear and appropriate conclusions (new understandings) based on evidence, explanations, interpretations, and connections to the world of ideas and human experience Connect new understandings to previous knowledge to be sure that old, inaccurate, and naive mental models have been modified	Use visual literacy to organize ideas and extract meaning from different formats of text (e.g., illustrations, graphics, layout) Interpret the meaning of the text: • Test against predictions • Find patterns and relationships among ideas in the text • Identify new information and compare to prior knowledge • Make inferences based on information explicit in the text; use evidence from the text to support inferences Recognize authors' points of view and consider alternative perspectives Draw conclusions about the meaning and implications of the text, using supporting evidence from the text Connect reading to own experience (text-to-self), previous knowledge and the real world (text-to-world), and previous reading (text-to-text) Compare new ideas with ideas previously held	Use *Visual Tools for Constructing Knowledge* to provide visual organizer templates and advance organizers to help students organize thinking and discover patterns and relationships in information Questioning: Teacher-to-student, student-to-teacher, student-to-student Class discussion Quick writes or directed writing of interpretations on specific questions or specific sections of text Cooperative learning: Shared inquiry, shared reading, interactive writing, peer review of writing Reciprocal teaching Comparing evidence to hypotheses to generate new explanations: Evidence that Supports / Evidence that Refutes → New Explanation Record → Elaborate → Extend

Figure 1.4 (continued)

INQUIRY PROCESS	INQUIRY SKILLS AND STRATEGIES	LITERACY SKILLS AND STRATEGIES	TEACHING STRATEGIES
Express	Apply understandings to new context, new situation—create a product to demonstrate new understanding Select format based on needs of topic and audience Communicate clearly both main and supporting points in product Use the writing process to develop product (pre-write, write, revise, edit) Evaluate and revise own product based on self-assessment and feedback from others Express new ideas or take action to share learning with others: • Communicate procedures and explanations for outcomes • Communicate conclusions and evidence for them • Communicate interpretations and evidence for them • Respect diverse opinions and alternative explanations, but defend own conclusions with evidence	Use appropriate format to communicate understanding Select format based on needs of topic and audience Select an organizational pattern based on needs of topic and discipline (*Writing in the Content Areas*): • Classification • Comparison • Characteristics • Justification of thesis (position paper, interpretation, cause/effect, statistical) • Chronology • Claims and causes • Causes, consequences, and conditions • Criticism Use the writing process to develop product (pre-write, draft, revise, edit, publish) in any format (e.g., written, presentation, visual, Web page)	Writer's workshop Use of graphic organizers in pre-writing and writing stages Reciprocal teaching Literate conversations (e.g., literary circles, discussion groups) Use of rubric with specific criteria Student collaboration to assess the strength of arguments (Believe / Doubt) (Jacobs, 2000) Debates
Express (cont.)	• Communicate to make thinking clear to others • Communicate to persuade others to adopt a point of view or interpretation	Evaluate and revise own product based on self-assessment and feedback from others	Teacher and peer conferencing
Reflect	Set high and clear standards for own work Reflect with others Use criteria to assess own process and product throughout the learning; make revisions when necessary Reflect on own learning to be clear about the change in understanding (change in mental model) Adapt own standards and process based on personal reflection and feedback from others Ask new questions, set new goals for learning	Use specific criteria in rubrics to assess the quality of the final product Use feedback from peers and teacher to assess own work Identify new understandings and new questions Set new goals for reading, writing, speaking, and listening	Metacognitive strategies Students assess own progress in skills, content learning Feedback that is corrective, timely, specific to a criterion, self-generated, and generated by teacher and peers (Marzano et al. 2001, 92–102) Reflection log: • I Used to Think / But Now I Know Portfolio reflections Student-written individualized learning plans